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| 10/822,696 | 04/13/2004 | Maurizio Pilu | 1509-487 | 2914 |

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| EXAMINER |
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CHEN, CHIA WEI A

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| ART UNIT | PAPER NUMBER |
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2622

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01/15/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/822,696 | Applicant(s) PILU, MAURIZIO | |
| | Examiner CHIA-WEI A. CHEN | Art Unit 2622 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32,34-38 and 40-59 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-29 and 35-37 is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6,8-10,16-22,30-32,34,38,40-44 and 52 is/are rejected.
- 7) ☒ Claim(s) 4,7,11-15,45-51 and 53-59 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the Appeal Brief filed on 10/2/2008, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

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F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 34 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 36 of U.S. Patent No. 7,106,204. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 34 of the instant application is broader than and is therefore anticipated by claim 36 of U.S. Patent No. 7,106,204.

It is noted that: Claim 34, discloses an image capture device (claim 36 of US 7,106,204: image capture system capable of capturing images) comprising:

- an image detector device (image capture system capable of capturing images) for capturing an image;

- an attention detection component (analyzer) for determining an attention signal of a person (first animate object) from a self perspective (responds to a first set of sensors for detecting behavioral aspects of said first object);

- a transponder device (analyzer) for receiving activation signals from a remote source (analyzer responds to a second set of sensors);

- said attention detection component being configured for identifying said activation signals (identifying a situation of shared attention), and

activating capture of an image in response to said self perspective activation signal and said received activation signal (generating an image capture signal in response to the determination of shared attention between said first and second objects).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 9 recites the limitation "the observer" in 3. There is insufficient antecedent basis for this limitation in the claim. Claim 1 discloses "an observer perspective" but does not disclose an observer object. The "observer perspective" of claim 1 is interpreted as an external viewpoint different from a host wearer's viewpoint.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Fedorovskaya (US 2004/0101178).

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Claim 30, Fedorovskaya teaches a method of automatically capturing an image, said method comprising:

detecting at least one attention signal (physiological responses) in response to a detectable body parameter of at least one animate object (paragraph 0049);

analyzing said at least one attention signal to determine an interest level of said at least one animate object (step 440), said analysis being performed in a mode of an observer perspective of said at least one animate object (paragraph 0148); and

capturing said image in response to said interest level (step 446; paragraph 0149).

Claim 31, Fedorovskaya teaches determining a situational saliency of a scene by analyzing said at least one attention signal (paragraph 0148).

Claim 32, Fedorovskaya teaches wherein said analysis is performed in a mode of self perspective of said animate object (analysis is performed by CPU 14 of the image capture device 6; paragraph 0148).

8. Claim 34 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Zellner (US 6,567,502).

Claim 34, Zellner teaches in Fig. 4, an image capture device comprising:

an image detector device (digital camera as part of monitoring device 37; col. 7, lines 44-55) for capturing an image;

an attention detection component for determining an attention signal of a person from a self perspective (a signal indicating a user's biological parameters, e.g., blood pressure or heart rate; col. 7, line 66-col. 8, line 2);

a transponder device for receiving activation signals from a remote source (transceiver can receive signals from remote ESC 14; col. 7, line 66, col. 4, lines 51-52); said attention detection component being configured for identifying said activation signals, and

activating capture of an image in response to said self perspective activation signal and said received activation signal (remote center ESC 14 can activate a camera to monitor the user or user's surroundings; col. 8, lines 2-6).

Claim 42, Zellner teaches a computer readable medium storing a computer program (remote controlling of devices may be performed by software; col. 5, lines 10-14) for causing a computer to perform steps comprising:

analyzing a plurality of sensor signals representing attention clues collected from a self perspective of a first animate object, and attention clues collected from an observed perspective of said first animate object, and determining from said sensor signals, a behavioral mode of the first animate object (signals indicating a user's biological parameters, e.g., blood pressure or heart rate; col. 7, line 66-col. 8, line 2); and

generating an image capture trigger signal for triggering an image capture device to capture image data, in response to a said sensed behavioral mode of said first animate object (remote center ESC 14 can activate a camera to monitor the user or user's surroundings; col. 8, lines 2-6).

9. Claims 38, 40, 41, 43, 44, and 52 are rejected under 35 U.S.C. 102(e) as being anticipated by Pflieger (US 6,997,556).

Claim 38, Pflieger teaches an attention detection component for determining a level of attention (col. 6, lines 3-7) of at least one animate object (test user), said component comprising:

an analyzer for (a) at least one attention clue signal (eye movements; col. 2, lines 48-54), and (b) determining from said attention clue signal, a level of interest of said at least one animate object, the attention detection component being operable for analyzing said attention clues in a self perspective mode, in which said attention clues relate to the at least one animate object (col. 6, line 48-col. 7, line 15).

Claim 40, Pflieger teaches the component being operable in an observer perspective mode, in which said attention clues represent signals describing behavior of an animate object observed from a remote location (camera 2 observes the test person's eyes from an external perspective; col. 6, lines 48-60).

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Claim 41, Pflieger teaches a transponder device for receiving said attention clue signals from a remote sender device (video system receives video signals from wireless cameras 1 and 2; col. 7, lines 32-39).

Claim 43, Pflieger teaches in Figs. 1-3 an attention detection system (look detection system; col. 6, line 8) comprising:

a portable attention detector (system worn on head 3) for receiving attention clues generated from a self perspective of a host wearer of said attention detector (camera 1 is provided to detect the field of view of the test person; col. 6, lines 61-64, col. 7, lines 6-10);

an animate object observing device (camera 2) for observing said host wearer from an observer perspective external of said host wearer and determining attention clues of said host wearer from said observer perspective externally of said host wearer (camera 2 is pointed at eyes of the test person; col. 6, lines 48-57);

said attention detector being capable of determining a situation of raised attention of said host wearer from said self perspective attention clues, and said received observer perspective attention clues (movement of pupil and detection of pupil position is detected using images from first and second cameras; col. 6, lines 48-60).

Claim 44, Pflieger teaches in Figs. 1-3, a system for detecting the attention level of a first animate object (col. 5, lines 28-31) comprising:

a first sensor (first camera 1) for generating a first signal relating to the attention level of the first animate object from the perspective of the first animate object;

a second sensor (second camera 2) for generating a second signal relating to the first animate object from a perspective other than the first animate object; and

a processor for determining that the first animate object has a raised attention level in response to the first and second signals (movement of pupil and detection of pupil position is detected using images from first and second cameras; col. 6, lines 48-60).

Claim 52 is analyzed as a method of the system described in claim 44.

Claim Rejections - 35 USC § 103

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 1, 3, 5, 6, 8, 10, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pflieger (US 6,997,556).

Claim 1, Pflieger teaches in Figs. 1-3 an attention detection system comprising:

at least one first sensor device for generating a host perspective signal relating to a host wearer from a host perspective (camera 1 captures a person's field of view) and relating to attention clue signals (person's field of view) indicative of the attention of the host wearer to the host perspective signal (col. 7, lines 6-10); and

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at least one second sensor device for generating a signal relating to the host wearer from an observer perspective and relating to said attention clue signals (camera 2 detects a person's eye movements from an external perspective; col. 6, lines 48-60); and

an attention detector (video system) for receiving the host perspective and the perspective attention clue signals (col. 7, lines 32-39) and for determining a situation of raised attention of said host wearer from said received host perspective attention clues and said received observer perspective attention clues (col. 11, lines 13-36).

Pfleger does not expressly teach wherein the video system is a portable system. However, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have used a portable recording device and computer to allow free movement of a test person (col. 5, lines 37-39 of Pfleger) and convenient access to the analysis of a person's attention information.

Claim 3, Pfleger teaches wherein said at least one first sensor device is adapted to be worn by said host wearer (col. 7, lines 61-62).

Claim 5, Pfleger teaches wherein said at least one first sensor device is adapted to be located in a place where said host user is likely to be (col. 7, lines 61-62).

Claim 6, Pfleger teaches a people-observing device (sensor, camera 2) for communicating with said attention detector (video system).

Claim 8, Pflieger teaches wherein at least one of the people-observing devices comprises a camera device (camera 2).

Claim 10, Pflieger teaches wherein the at least one first sensor device (camera 1) are integrated into a host wearable device (helmet or eyeglasses 3).

Pflieger does not expressly teach wherein the portable attention detector is integrated into a host wearable device.

However, it would have been obvious to a person having ordinary skill in the art to have integrated a portable processor in the camera sensor of helmet or eyeglasses to allow convenient access to the analysis of a person's attention information.

Claim 16 Pflieger teaches wherein at least one of the first sensor device and the second sensor device comprises a digital camera device for capturing a digital image (CCD camera; col. 7, lines 28-31).

Claim 18, Pflieger teaches wherein the at least one second sensor device is arranged for detecting an eye direction of said host wearer and for generating the perspective attention signal based on the detected eye direction of said host wearer (pupil position and eye movement; col. 6, lines 48-60).

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12. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pflieger in view of Mann (Humanistic Computing: "WearComp" as a New Framework and Application for Intelligent Signal Processing, Proceedings of the IEEE, Vol. 86, pp. 2123-2151, 1998).

Claim 2, Pflieger teaches wherein said at least one sensor device comprises:
an image capture device (camera 1) for capturing an image from the self-perspective of said host wearer,

but does not expressly teach wherein the capture is in response to a determined situation of raised attention.

Mann teaches wherein image capture is in response to a determined situation of raised attention (paragraph 4 in the left column of page 2135).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the trigger of raised attention of Mann with the attention capture system of Pflieger in order to store or transmit only the important images to preserve storage space. (See paragraph 0012 of Fedorovskaya, US 2004/0101178).

13. Claims 17 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pflieger (US 6,997,556) in view of Fedorovskaya (US 2004/0101178).

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Claim 17, Pflieger teaches the system as claimed in claim 1, but does not teach wherein the at least one second sensor device is arranged for detecting a facial expression of said host wearer and for generating the perspective attention signal based on the detected facial expression of said host wearer.

Fedorovskaya teaches wherein at least one second sensor device is arranged for detecting a facial expression of said host wearer and for generating the perspective attention signal based on the detected facial expression of said host wearer (affective information is determined based on facial expression; paragraph 0070).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the facial expression analysis of Fedorovskaya with the attention detection system of Pflieger in order to increase the data collected in regards to a user's degree of preference for scenes or situations. (See paragraph 0067 of Fedorovskaya and col. 6, line 3-7 of Pflieger.

Claim 19, Fedorovskaya teaches wherein at least one second sensor device is arranged for detecting body language of said host wearer and for generating the perspective attention signal based on the detected body language of said host wearer (affective information is collected and analyzed based on detected body gestures; paragraph 0052).

Claim 20 Fedorovskaya teaches wherein the at least one second sensor device is arranged for detecting body posture of the host wearer and for generating the

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perspective attention signal based on the detected body posture of the host wearer (body movements and gestures; paragraph 0052).

Claim 21, Fedorovskaya teaches wherein the first sensor device or the second sensor device or both sensor devices include a detector for the context of an environment where said host wearer is located, the host attention signal or the perspective attention signal or both the attention and perspective signals, as appropriate, being dependent on the context of the environment where said host wearer is located (GPS data is collected and taken into account when recording affective information; paragraph 0196-0197).

Claim 22, Fedorovskaya teaches wherein the first sensor device or the second sensor device or both sensor devices include a vocal utterance detector (microphone; paragraph 0055) of the host wearer, the host attention signal or the perspective attention signal or both the attention and perspective signals, as appropriate, being dependent on the vocal utterance detector of the host wearer (paragraph 0051).

Allowable Subject Matter

14. Claims 23-29 and 35-37 are allowed.

15. Claims 4, 7, 11-15, 45-51, 53-59 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHIA-WEI A. CHEN whose telephone number is (571)270-1707. The examiner can normally be reached on Monday - Friday, 7:30 - 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tuan V Ho/
Primary Examiner, Art Unit 2622

/C. A. C./
Examiner, Art Unit 2622